

ALLOY STEEL**DSM 1.2.3****Definition:**

Alloy 42 is an iron-nickel alloy containing 42% nickel. This **controlled expansion alloy** has a low and normally constant coefficient of thermal expansion from room temperature to about 300°C, which makes it particularly suitable for use in glass and ceramic seals. It finds application in a variety of electronic components and lead frames.

Features:

Easily machined in the annealed condition and formed hot or cold.

ASM (DEK) Applications:

Paste wipers.

These values are representative and should not be considered as definitive. For critical applications, refer to material data-sheet.

TYPICAL MECHANICAL PROPERTIES @25°C (Annealed)	
DENSITY:	8120 Kg/m ³
YOUNGS MODULUS:	207 GPa
POISSONS RATIO:	0.28
YIELD STRENGTH	250 MPa
TENSILE STRENGTH	490 MPa

Available Profiles:

- Sheet, Bar, Plate & Wire

These sizes are given in good faith and should not be considered as definitive

Material Thickness (inches) Strip							
0.005"	0.006"	0.0075"	0.008"	0.010"	0.015"	0.020"	0.030"
0.040"	0.061"	0.080"	0.100"	0.125"			

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CHEMICAL ANALYSIS		BENEFIT
Nickel	42%	Provides good corrosion resistance.
Mang.	0.80	Helps convert iron into steel.
Silicon	0.3	Increases strength & wear resistance
Chrome	0.25	Combines with Ni to improve corrosion resistance.
Alumin.	0.10	Increases corrosion resistance
Carbon	0.05	Low % content: Good for machining & welding.
Sulphur	0.025	Good for machining.
Phosph.	0.025	Increases strength & corrosion resistance
Iron	Balance	

CURRENT INTERNATIONAL SPECIFICATION COMPARISON	
BRITISH: BS EN	Ni 42
GERMAN: DIN	17745
AMERICAN: ASTM	F30
EUROPEAN STEEL No.	1.3917
JAPANESE GRADE	----
CHINESE GRADE	----

Alternatives:

Alternative materials are allowed only with the express written permission of ASMPT. Please email details of your request to engineering_enquiries@asmpt.com

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